

DRAWING AMENDMENTS

Amendments to the drawings include replacement sheets as set forth in the Appendix following page 7 herein.

REMARKS

The subject matter of claim 19, namely “each optical radiation generation means including a plurality of radiation sources each being operable for generating radiation having the same wavelength but with a different state of polarization”, was added to main claim 13.

Applicants respectfully disagree with the Examiner’s statement that “Claims 19-21 recite notoriously well known structure for wavelength division multiplexing...” in the Office Action dated 11 April 2006. With reference to the feature defined by claim 19 (which is being introduced into claim 13), Nagel, et al. does not disclose using a plurality of radiation sources each being operable for generating radiation having the same wavelength but with a different state of polarization. The Examiner has not identified any prior art document that shows this feature, and applicants contend that the Examiner’s objection is not well-founded. The Examiner has not stated how or why this claimed feature is not inventive.

The gain of a Raman amplifier, including the polarization dependent gain (PDG), depends on the state of polarization of the pump relative to the state of polarization of the optical signals in the fiber. The PDG degrades the performance of the amplifier.

Using the combination of optical signals with different states of polarization according to amended claim 13 generates a nearly un-polarized light beam, which has a low degree of polarization (DOP). The nearly un-polarized beam of light avoids the residual changes in the state of polarization, thereby reducing the PDG of the Raman amplifier and improving the performance of the amplifier.

Prior art systems address the problems associated with PDG by co-polarizing the WDM radiation components and pump radiation. The present invention avoids the need for

electronic components to co-polarize the WDM radiation components with the pump radiation, as the present invention uses the plurality of radiation sources with different states of polarization to reduce the degrading effects of PDG (see paragraphs 0017, 0037 and 0038 of the published U.S. application).

For these reasons, applicants submit that amended claim 13 is patentable.

Petition is hereby made for a one-month extension of the period to respond to the outstanding Official Action to August 11, 2006. A check in the amount of \$120.00, as the Petition fee, is enclosed herewith. If there are any additional charges, or any overpayment, in connection with the filing of the amendment, the Commissioner is hereby authorized to charge any such deficiency, or credit any such overpayment, to Deposit Account No. 11-1145.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

KIRSCHSTEIN, OTTINGER, ISRAEL & SCHIFFMILLER, P.C.

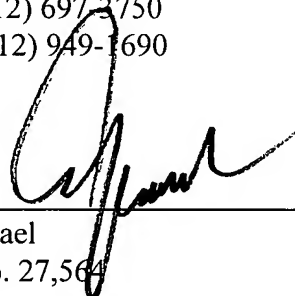
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